(d) The respective State Pollution Control Board/Committee shall be the monitoring agency. The manufacturers are required to submit quarterly returns on collection to the concerned State Pollution Control Board/Committee. The Central Pollution Control Board Shall compile and publish data on collection annually.

Reduction of pollution from smoke and dust

197. SHRI PRANAB MUKHERJEE: Will the Minister of ENVIRONMENT AND FORESTS be pleased to state:

(a) whether any research has been undertaken for reduction of air pollution by smoke and dust;

(b) if so, with what results and if not, whether the Ministry would initiate such a research; and

(c) what measures are being enforced for protection of environment from pollution by fly-ash?

THE MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT AND FORESTS (SHRI BABU LAL MARANDI): (a) and (b) Smoke and dust in the air result from several sources like vehicular exhaust, emissions from industries like cement, petroleum fertilizer, chemical etc., mining, construction activities, thermal power plants and so on Deforestation also leads to wind erosion and resultant dust in the air. Research studies have been carried by various scientific organisations including Central/ State agencies, NGOs and private companies in their respective areas. To cite a few examples, research studies are progressing to develop slurry-based transport system for fly-ash in place of dry transport system, development of various products from fly-ash, improvement in 2T oil to reduce smoke and particulate matter from 2T stroke engine, as also change of 2-stroke engines to 4-stroke engines, phasing out more than 15-years old vehicles from metropolitan cities use of bag house technology to reduce suspended particulate matter pollution, raising of green belts of identified plant species around factories, to reduce air pollution, intensive afforestation measures in urban and deforested/desert lands etc. Air

pollution studies are among the priority R&D areas of the Ministry of Environment and Forests which will continue to support research in this sector.

(c) Utilization of fly-ash is being promoted for manufacture of products such as bricks, concrete blocks cement, ceramic tiles material for construction of roads, dams, dykes, etc. It is also being used in the agricultural sector as soil amendment and for preparation of urea-fly-ash pellets as slow release nitrogen fertilizer. It is also being used for wasteland reclamation and filling the mine pits.

The Ministry of Environment and Forests, *vide* notification No. S.O. 763(E) dt. 14.9.99, issued under Environment Protection Act, 1986 has made it compulsory for the brick manufacturers within a radius of 50 KMs from coal or lignite base thermal power plants to use 25% of fly-ash with soil on weight to weight basis. Government agencies like CPWD, PWD, development authorities, housing boards, National Highway Authority of India and other Construction agencies have been asked to prescribed the use of. ash and ash-based products in their construction applications.

Fly-ash Mission has also been constituted by the Government of India during August 1994 with Deptt. of Science and Technology as the nodal agency and Technology Information, Forecasting Council (TIFAC) as the implementing agency. The mission works in close cooperation with other agencies like Ministry of Environment and Forests, Ministry of Power, Thermal Power Stations, NTPC, R&D institutions, academia and industry. It has major focus on technology demonstration projects for developing confidence in fly-ash technologies for large-scale adoptions. Thrust areas identified under the mission include characterisation of fly-ash, hydraulic structures; handling and transportation; ash ponds and dams; agriculture- related studies and applications; reclamation of ash ponds for human settlement, roads and embankments, underground mine fills, building components, and research projects.